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| ATO Service Support Versioning Strategy  Wholesale Services      Date: 31st August 2017  Status: Final | | | |
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| attention_pms This document and its attachments are **Unclassified** | direction_pms **For further information or questions, contact the SBR Service Desk at** [SBRServiceDesk@sbr.gov.au](mailto:SBRServiceDesk@sbr.gov.au) **or call 1300 488 231. International callers may use +61-2-6216 5577** | | |
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VERSION CONTROL

| Version | Release date | Description of changes |
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| 1.1 | 31/08/2017 | This document is a new format to the previous PowerPoint that was formally published on sbr.gov.au on 16th February 2017.  Additional information has been added for clarity than that endorsed by the Software Developer Technical Working Group (TWG) late in 2016. |

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# **Introduction**

## Background

Over the last few years there has been an increasing need for the ATO to define a wholesale service versioning support strategy as the number of external facing services that the ATO Digital Wholesale Services (DWS) Branch has developed has grown from around 80 to approximately 250 service actions in the last three years.

DWS supports wholesale services over three major channels:

1. Standard Business Reporting (SBR) Core Services,
2. SBR ebMS3 and
3. Bulk Data Exchange (BDE).

To retire a version of a service is a very ad-hoc, manually intensive and multi-step process. With the number of services that DWS is now supporting, there needs to be a defined strategy on how many versions of a service will be supported and how older versions will be retired in an effective manner for both ATO business and external consumers of ATO services.

## Audience

The audience for this strategy is Digital Service Providers (DSPs) who have or are interested in developing ATO wholesale services.

## Document purpose

The purpose of this strategy is to define:

* Key concepts, such as -
* Life Cycle Stages of a Service,
* Breaking versus non-breaking changes and
* Cyclical Financial Year Services (CFYS) versus Non-Cyclical Financial Year Services (NCFYS).
* Principles for supporting versions, including -
* Length of support for a version of a service,
* How a service becomes deprecated and
* How a service becomes decommissioned.
* The processes to support a service or service actions becoming deactivated.

# **Key concepts**

## Life cycle stages of a service

Life cycle stages of a service are defined in the ATO Service Registry spreadsheet in two slightly different ways:

* 1. Service Action Status and
  2. PROD Interaction Status

### Service action status

This field is used to highlight the status of the service action during the Service Delivery Life Cycle (SDLC).

The values are:

* **Pending** – design artefacts have not yet been released.
* **Draft for initial consultation** - design artefacts have been released yet no ATO build has commenced.
* **Draft for build commencement** - the service action is in the External Vendor Test Environment (EVTE) yet is subject to change.
* **Cancelled** - a decision has been made to cease development work and not deploy to Production (PROD) for all platforms.
* **Fit for Build** - the service action is stable and deemed to be the version going to, or is in, PROD.
* **Deprecated** – the service action is available but only for a specified period and will be deactivated at a future date.
* **Deactivated** – the service action is no longer available.

### PROD interaction status

This field is used to highlight the status of the service action in PROD by platform.

The values are:

* **Proposed** - the service action is expected to be available in future. Depending on the Service Action Status described previously, build work may commence.
* **Active** - the service action has been deployed and is available to consumers.
* **Cancelled** - a decision has been made to cease development work and not deploy to PROD for a given platform.
* **Deprecated** – the service action is available but only for a specified period and will be deactivated at a future date. No new DSPs can consume this service.
* **Deactivated** – the service action is no longer available and has been permanently turned off in EVTE and PROD.

### Deprecation/deactivation timeframes

When a version moves to being N-1 in PROD it will be re-classified as a deprecated service and will be supported in PROD for a period of no less than 18 months (when practical) to enable a smooth transition to a more recent version before the service is deactivated. If the N-1 service hasn’t been in PROD for twelve months, then the default deactivation date will be the 18 months plus any months less than the 12 months that the service version/action has not been in PROD for.

As part of a service being moved to a deprecated status:

* It will be supported in production for a period of not less than 18 months to enable a smooth transition to a later version (exceptions to this principle are outlined in principle NCFYS-PR01 in section ‘2.3.2 NCFYS principles’ further below).
* After the 18+ month period, the deprecated service will deactivated.
* No new DSPs will be able to consume a deprecated service.

### Notification of status changes

The ATO Service Registry is the source of change notification to services and service actions. Where a Service/action is marked as deprecated it will have a ‘Service Life End’ date as the deactivation date.

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| Picture | It is recommended that you subscribe to the ATO Artefacts and Location.xlsx on [sbr.gov.au](http://www.sbr.gov.au/bulkmail/forms/subscribe-to-ato-landing-page) to be alerted of artefact updates, including the ATO Service Registry. |

## Breaking versus non-breaking changes

### Breaking changes

A breaking change is when the behaviour of the service changes which forces the consumer of the service to change their code (such as a new mandatory field or a business rule becoming more restrictive). In this case a new version of the service must be created.

### Non-breaking changes

When changes to an existing service do not force the consumer of the service to change their code (such as a new optional field or a business rule becoming less restrictive) then it is classified as a non-breaking change. In this case a revision and not a new version of the service will be created.

## Cyclical financial year services (CFYS) versus non-cyclical (NCFYS)

As a general rule, there are two types of services based on their lodgment patterns. These are:

1. Cyclical Financial Year Services (CYFS)   
These are services that typically have some legislative changes occurring each financial year, such as Individual Income Tax Returns (IITR) and Non-individual Income Tax Returns (NITR).

2. Non-Cyclical Financial Year Services (NCYFS)  
These are services that are not tightly linked to the standard cyclical financial year reporting period, such as Client Account List, Add Tax Role and Add Client Relationship. Implementation generally could occur at any point in time within a financial year and typically have a lodgment reporting period that is event based.

### CFYS principles

The table below outlines the general principles applied for Cyclical Financial Year Services (CFYS).

|  |  |
| --- | --- |
| ID | Principle |
| CFYS-PR01 | If a change is required to a service it will generally be versioned; that is, treated as a breaking change. |
| CFYS-PR02 | Previous versions of CFYS are generally not retired and will continue to operate as past years lodgments need to be supported.  An example of an instance where certain past year lodgments may not be supported are when ATO shifts channels (such as in the case of ELS2SBR or if the ATO backend processing systems change).  In both of these cases, the ATO will work actively with software providers consuming the affected services to work through a transition plan. |

### NCFYS principles

The table below outlines the general principles applied for Non-Cyclical Financial Year Services (NCFYS).

| ID | Principle |
| --- | --- |
| NCFYS-PR01 | When a version moves to being N-1 in Production it will be re-classified as a deprecated service, and will be supported in production for a period of not less than 18 months to enable a smooth transition to a more recent version before the service is deactivated.  If the N-1 service hasn’t been in production for twelve months, then the default deactivation date will be the 18 months plus any months less than the 12 months that it hasn’t been in production for. The reason for this is that ATO wants to ensure that DSPs have an appropriate ROI for a version of a service, where at minimum that return should be 30 months (refer to Appendix A which shows an example of a service being versioned over time).  Exceptions to this principle would be:   * If there was a legislative change or critical severity one error required to the service that needed to be in effect by a specified date. In this instance, the ATO taking into account transitioning requirements will generally mandate the new version at a date and all prior versions will be deactivated at that point. * If there are no subscribers or registered interest for a version of a service, then the ATO can deactivate that version of the service without delay. |
| NCFYS-PR02 | No new service providers will be able to consume a deprecated service in either EVTE or PROD that has not been Whitelisted prior to notification via the ATO Service Registry publication. |
| NCFYS-PR03 | Changes of a breaking nature will be minimised as much possible. |

# **Deprecation of service facets**

## The four layers of deprecation

Service deprecation can occur at four different levels or facets:

1. Service in entirety,
2. Service version/s,
3. Specific service action/s for a service version/s and
4. Schema/s associated with a service version/actions.

### Service in entirety

A service along with all of the corresponding versions, actions and schemas may be deprecated. This would usually occur when a new service is designed that has richer functionality or ATO systems are changing that can no longer process the service in question.

An example of this is the service Account List (ACCLST) which has been superseded by the Client Account (CLNTACC) product suite.

### Service version/s

Deprecating a service version is the most common deprecation activity and occurs when a newer version is deployed.

### Specific service action/s for a service version/s

A specific service action (along with request/response schemas) may be deprecated as it is no longer applicable for a particular service version at a given point in time or has low to no usage.

An example of this deprecation may be a ‘validate’ service action that is not used and therefore is deemed a maintenance investment overhead.

### Schema/s associated with a service version/actions

Typically, when a schema is changed it will be either be a breaking or non-breaking change to the service action interface (as discussed in section ‘2.2 Breaking versus non-breaking changes’ previously in this document).

As a general rule, where an interface contract is ‘broken’ (such as the addition of new mandatory elements) typically a new version of the service/action would be produced. The rare exception to this rule may occur where the request schema has not changed but a response schema has - where a single request is used for multiple response schemas.

A production example of the above scenario occurred on 1st July 2017 when the Tax Practitioner Client Management Report (TPCMR) Get Report (grpt) service had a breaking change to the Activity Statement Client Report (ascrpt) non-interactive response schema. Versioning the service would have meant changing the service call for one response that would impact the other three response interfaces for no value.

## Build investment and whitelisting

DSPs that have already whitelisted against a deprecated service action may continue to develop and deploy to PROD (if not already deployed before deprecation notification).

Once a service action is deprecated, it is recommended that an analysis is conducted by DSPs of newer versions/superseding services to determine the most appropriate investment and transition plan.

When deprecation notification has been communicated, service whitelisting is no longer available. The exception to this rule is where build has commenced yet no whitelisting has been sought at the time of deprecation notification. DSPs investment effort needs to be discussed with their Account Manager as to whether whitelisting can occur.

## Support and maintenance

Support and maintenance for a deprecated service facet is typically limited to high severity technical incidents not associated with the service interface itself (such as internal system changes or an incorrect validation rule) and/or high priority business defects. As a general rule, the service version/action is deemed to be generally unfit for purpose and impacts a large number of consumers for updates to occur.

Where low severity/priority issues are identified, the ATO will evaluate updating newer versions/superseding services whilst the ATO is still in build phase and/or determining investment/schedule where PROD deployment has already occurred.

### Artefact removal and communication

Once a service facet has been deprecated it will be removed from where it is published. This will be done to inhibit build investment by DSPs that have not already done so and to ensure that investment is not wasted where whitelisting will not occur.

* For services in entirety or service versions, the design Package Content Notes (PCNs), associated design zip files and conformance suite packages will be deleted from the relevant site they are hosted on.
* Service action artefacts and/or schemas will be removed from the host package.

Communication of artefact removal is firstly via the ATO Artefacts and Location spreadsheet and then re-iterated within the impacted PCNs where packages have been modified.

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| Picture | If, for some reason, a previous version of an artefact is required by a DSP, a request can be made either via the SBR Service Desk ([SBRServiceDesk@sbr.gov.au](mailto:SBRServiceDesk@sbr.gov.au)) or by contacting their Account Manager. |

### Service facet update notification

Deprecated service version/action artefacts modified due to Support and Maintenance updates will be provided to whitelisted DSPs directly via email through their Account Manager. At that stage, an Account Manager will discuss with the DSP their development investment on deprecated services and the DSPs transition plan to new service facets.

### Deprecated service monitoring

The ATO DWS Branch will run regular reports (usually monthly) on both the EVTE and PROD environments for deprecated services. This data will be used for two purposes:

1. ATO Business owner consultation   
The data will be used to inform ATO Business of the number of DSPs actively using EVTE during development, the number of DSPs deployed to PROD and the volumes by service calls being made to a deprecated service action. This will then allow ATO Business, along with the DSPs Account Manager, to determine a communication plan and/or re-evaluate the deactivation date if necessary.

2. Account Manager engagement with DSPs  
Account Managers will actively work with individual DSPs on a transition plan to new service versions.

# **Deactivating service facets**

When a service facet has reached its deactivation date as notified in the ATO Service Registry it will be permanently removed (deleted) from the ATO external framework.

This means EVTE and PROD is no longer accessible to DSPs and their product consumers for the facets marked as deactivated.

Appendix A – Example of a service being versioned

The following example shows how a service could be versioned over time, and in particular shows that a version of a service will be operational in production for a minimum of 30 months (baring a legislative change or critical sev one error required to the service, that needed to be in effect by a specified date), and that a service will be in a deprecated stated for a minimum of 18 months.

